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Case Report

Ileo-caecal intussusception secondary to lipoma in an adult: A rare cause for intestinal obstruction

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ABSTRACT

Intussusception in adults is a rare condition. Unlike in children, it is often associated with a pathologic lesion that serves as a lead point. We report an unusual case of ileo-caecal intussusception due to lipoma. A 51-year-old male presented with symptoms and signs of intestinal obstruction. CT scan revealed bowel obstruction, resulting from ileo-caecal intussusception with the lead point being a lipoma of the terminal ileum. Ileocaecal resection with primary anastomosis was performed with histology confirming lipoma. Intussusception is not a common cause for intestinal obstruction in adults and is best diagnosed with CT scan. Surgical resection remains the definitive treatment in adult intussusception.

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Introduction

Intussusception is defined as invagination of a proximal segment of bowel into an adjacent distal segment, and commonly occurs in children under 3 years of age [1]. In adults, intussusception is an extremely rare condition, where it represents approximately 5% of all intussusceptions and accounts for 1% of all cases of intestinal obstruction [2]. Intussusception can be classified according to location: entero-enteric, colo-colic, ileo-colic, and ileo-caecal [3]. The aetiology, clinical presentation and management of intussusception in adults is different from that in children. We present a rare case of ileo-caecal intussusception secondary to a lipoma.

Case Report

A 51-year-old gentleman presented to the emergency department with 1-day history of generalized colicky abdominal

pain. He also complained of vomiting, constipation and abdominal distension. There was no significant medical or surgical history. Physical examination showed a distended abdomen; there was generalized tenderness with associated voluntary guarding, maximal in the right iliac fossa, but no rigidity or rebound tenderness. The abdomen was tympanic to percussion with absent bowel sounds. Digital rectal examination revealed an empty rectum.

Laboratory investigations showed leukocytosis (white cell count $13.1 \times 10^9/L$) with neutrophilia (80.9%). Other laboratory results, including biochemistry and urinalysis, were within normal limits. Abdominal X-ray suggested bowel obstruction, with multiple air-fluid levels (Fig. 1). CT scan of the abdomen revealed picture of small bowel obstruction by a well-circumscribed, intraluminal hypodense mass with fat attenuation in the ileocaecal junction measuring 2.5×1.8 cm (Fig. 2). There was entry of the terminal ileum through the ileocaecal valve, thereby indicating ileo-caecal intussuscep-

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Fig. 1 – Abdominal X-ray showing air-fluid levels.



Fig. 3 – Coronal CT scan showing picture of small bowel obstruction caused by ileo-caecal intussusception with the lead point being a lipoma (white arrow).

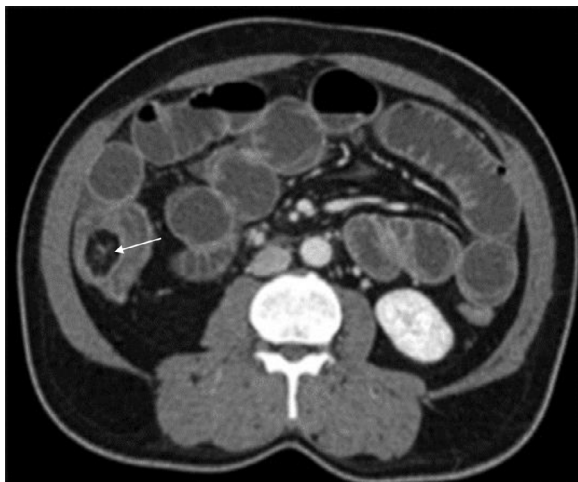


Fig. 2 – Axial CT scan showing a well-circumscribed intraluminal hypodense lesion with fat attenuation in the ileo-caecal junction (white arrow) with dilated proximal small bowel loops.



Fig. 4 – Gross specimen showing invagination of the terminal ileum through the ileo-caecal valve into the caecum.

tion, with the lead point being a lipoma of the terminal ileum (Fig. 3). There was some free fluid in the right subphrenic space and right iliac fossa, but no free air within the abdomen.

The patient underwent an emergency laparotomy. During the operation, there was dilatation of the small bowel till the terminal ileum and the diagnosis of ileo-caecal intussusception was confirmed, with no evidence of bowel ischemia. The caecum and ascending colon were mobilized and an ileocaecal resection with a side-side anastomosis of the ileum to the ascending colon was performed. There were no significant complications postoperatively or at 2-week follow-up in the outpatient clinic. The resected segment of the bowel included 5 cm of the terminal ileum, the caecum and appendix (Fig. 4).

On examination of the resected segment, a large polyp measuring 3 × 2 cm was seen protruding from the terminal ileum through the ileocaecal valve into the caecum. It was yellow and lobulated, indicating a lipoma; this was confirmed on final histological examination (Fig. 5). H&E examination showed an intraluminal polypoidal lipoma lined by ulcerated bowel mucosa and composed of benign lobulated mature fatty tissue with granulation tissue and mixed inflammation and without atypia (Fig. 6). Resection margins were normal.

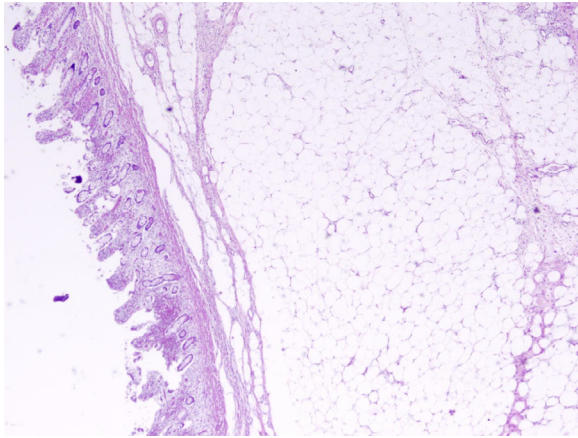


Fig. 5 – Low power view H&E examination showing a lipoma lined by ulcerated mucosa and composed of lobulated mature fatty tissue.

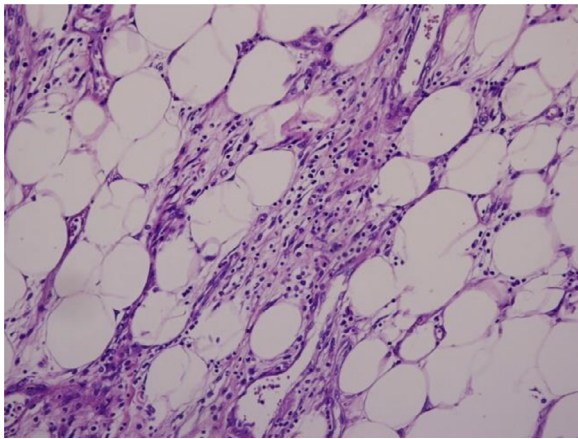


Fig. 6 – Higher power view H&E examination showing mature adipose tissue with a focus of chronic inflammation and without atypia.

Discussion

Intussusception is a surgical emergency, mostly occurring in infants and young children. Its incidence in adults is very rare. The telescoping of the proximal segment of bowel into the adjacent intestinal loop may be enteric or colonic. In our case, the terminal ileum telescoped through the ileo-caecal valve into the caecum, making it an ileo-caecal intussusception.

In contrast to intussusceptions in children, where the majority of cases are idiopathic, 90% of adult intussusceptions are due to a definitive underlying disorder, with only 10% being idiopathic [4]. Two-thirds of cases of intussusceptions are in the small bowel and are secondary to benign neoplasms, adhesions, Meckel's diverticulum, lymphoid hyperplasia and adenitis, whereas Intussusception in the large bowel is more likely to have a malignant aetiology [5]. In our case, a lipoma of the terminal ileum was the lead point for the intussusception. Lipomas are rare benign tumors, with a reported incidence

of intestinal lipomas between 0.15% and 4.4%, with most occurring in the large bowel [4]. They are usually asymptomatic, however, lipomas greater than 2 cm may cause bowel obstruction, abdominal cramps, bleeding, diarrhea or may cause intussusception by forming the lead point [6].

Unlike in children, symptoms in adults are usually chronic and rarely present as an acute abdomen [5]. The majority of adults present with nonspecific and intermittent abdominal pain, nausea and vomiting, change in bowel habit and abdominal distension [1,6]. Other symptoms may be present, such as malaena, fever and weight loss [5]. Due to nonspecific and vague nature of symptoms, preoperative diagnosis is usually difficult and imaging modalities are essential for the definitive diagnosis [4].

Abdominal ultrasonography is cheap, readily available and noninvasive, and has been successful in diagnosing intussusception, especially if a palpable mass is found [7]. On ultrasound, a lipoma appears as a round, echogenic mass and features such as the “target or doughnut sign” on transverse view and the “pseudokidney sign” in longitudinal view indicate intussusception. [4] However, the major disadvantages of ultrasound are operator dependency and difficulty interpreting images in the presence of air, which is often present in cases of intestinal obstruction. Intussusception is best diagnosed with a CT scan, with a sensitivity and specificity of up to 100% [1]. CT scan shows a pathognomonic bowel-within-bowel configuration, and this appears a “target” or “sausage”-shaped lesion, while also defining the location, nature and relationship of the lesion to surrounding tissues. CT scan is an excellent imaging modality in revealing the site, level and cause of intestinal obstruction and can show possible complications, including bowel ischemia or perforation, and give additional information, such as the presence of metastasis or lymphadenopathy, which may indicate the underlying pathology [5,8]. On CT, lipomas are seen as homogenous, well-circumscribed, ovoid or round lesions with characteristic attenuation values between -40 and -120 Hounsfield Units, typical of the fatty composition [6,9].

In view of an underlying pathological lead point or predisposing condition in adult intussusception, nonoperative reduction with barium or air is not the treatment of choice as it is in children [5]. Consequently, the optimal treatment of intussusception in adults is limited surgical resection [1]. The risks of reduction of an intussuscepted bowel include intraluminal seeding and venous tumor dissemination, perforation and seeding of microorganisms and tumor cells to the peritoneal cavity as well as increased risk of anastomotic complications of manipulated friable and oedematous bowel [4]. Endoscopic resection of lipomatous polyps and laparoscopic resection of benign small bowel tumors causing intussusception may be considered as another potential means of management [8]. It is not clear whether asymptomatic small bowel lipomas require any intervention, however, resection is indicated if lipomas are symptomatic or to rule out liposarcomas by histopathological examination. Nevertheless, immediate surgical intervention is mandatory for lipomas causing obstruction, massive hemorrhage or intussusception [6]. While intussusception itself has a good prognosis, the main prognostic factor is the nature of the underlying pathology leading to the intussusception [1,5].

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